Filing Date: March 15, 2001

Title: DEVICE AND METHOD TO REDUCE WORDLINE RC TIME CONSTANT IN SEMICONDUCTOR MEMORY DEVICES

#### **REMARKS**

This responds to the Office Action dated July 16, 2008.

Claims 1, 5, 8, 26, 30, 37, 45, and 49 are amended. Claims 1-13, 15-41, 45-53, and 55-57 are pending in this application.

# Specification/Claim Objections

Claim 1 was objected to because "the strapping devices" in line 15 lacks antecedent basis. Claim 1 was amended to clarify the recited subject matter. Applicant respectfully requests withdrawal of the objection and allowance of claim 1.

## §112 Rejection of the Claims

Claims 1-13, 15-41, and 45-48 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. Applicant has amended claims 1, 5, 8, 15, 26, 30, 37, 45, and 49 to clarify the recited subject matter. Applicant respectfully requests withdrawal of the rejection and allowance of claims 1-13, 15-41, and 45-48.

### §102 Rejection of the Claims

1. Claims 1-13 and 15-53, as best understood in view of the 112 rejection above, were rejected under 35 U.S.C. § 102(b) as being anticipated by Cowles (U.S. Patent No. 5,940,315).

Applicant respectfully traverses the rejection and submits that anticipation does not exist for these claims at least for the reason that Cowles does not teach all of the elements recited or incorporated into the claims.

For example, Applicant cannot find in Cowles any teaching of, among other things, a strapping line of lower resistance than the wordlines coupled to a single continuous wordline in a single array, ... wherein the strapping line straps a first half portion of a number of even wordlines in the memory array and a second half portion of a number of odd wordlines in the memory array,

as recited in claim 1 and similarly recited or incorporated into claims 2-13 and 15-53.

In an Appeal decision dated April 17, 2008, the Board of Patent Appeals and Interferences concluded Cowles does not teach nor suggest this arrangement of strapping lines. At the time of the Appeal the arrangement of strapping lines was recited in dependent claim 14.

In an amendment filed May 2, 2008, claims 1, 5, 8, 15, 19, 26,30, 37, 45, and 49 were amended to include elements from claim 14, and claim 14 was consequently canceled. Applicant respectfully submits that claims 1-13 and 15-53 are not anticipated by Cowles at least because their present recitation of the arrangement of strapping lines was indicated to be allowable in view of Cowles by the Board.

Consequently, Applicant respectfully requests reconsideration and allowance of claims 1-13 and 15-53.

2. Claims 55-57 were rejected under 35 U.S.C. § 102(b) as being anticipated by Tanoi (U.S. Patent No. 5,708,621). Applicant respectfully traverses the rejection and submits that anticipation does not exist for these claims at least for the reason that Tanoi does not teach all of the elements recited or incorporated into the claims.

For example, Applicant cannot find in Tanoi any teaching of, among other things, an even row decoder located on a first side of the memory array; an odd row decoder located on a second side of the memory array; [and] ... a number of parallel wordlines ... including one or more even wordlines coupled to the even row decoder, and one or more odd wordlines coupled to the odd row decoder, the odd wordlines arranged alternately with the even wordlines,

as recited or incorporated in these claims. Instead, Tanoi refers to one x-decoder (XDEC) 10 and one y-decoder (YDEC) 16.<sup>2</sup>

The Office Action states that Tanoi teaches an even row decoder (connected to driver 31 in Figure 16) located on a first side (right side) of the memory array; and an odd row decoder (connected to driver 30 in Figure 16) located on a second side (left side) of the memory array.<sup>3</sup> Applicant respectfully disagrees with this characterization of the drivers 30 and 31 of Figure 16.

Tanoi states that a main word line 26 is driven by a main word line driver 28 that in turn drives a plurality of subsidiary word line drivers such as drivers 30 and 31. Thus, as shown in

<sup>&</sup>lt;sup>1</sup> Appeal Decision decided April 17, 2008, Appeal 2007-3606, page 7.

<sup>&</sup>lt;sup>2</sup> Tanoi, col. 4 lines 6-16, and FIG. 1.

<sup>&</sup>lt;sup>3</sup> Office Action, pg. 16 item 7.

Figures 2 and 3 of Tanoi, driver 30 and driver 31 are connected to the same word line 26 rather than driver 31 connected to an even word line and driver 30 connected to an odd word line. Thus, Tanoi does not teach "one or more even wordlines coupled to the even row decoder, and one or more odd wordlines coupled to the odd row decoder, the odd wordlines arranged alternately with the even wordlines" as recited in claim 55.

Additionally, Applicant respectfully disagrees with the characterization of item 106 in Figure 16 as a memory array. Instead, Tanoi states that as shown (in Figure 2) the subsidiary word line drivers of each subarray are disposed alternately on the left and right sides of the subarray. Thus, item 106 in Figure 16 indicates a subarray rather than an array. Thus, drivers 30 and 31 do not read on the "even row decoder located on a first side of the memory array [and] an odd row decoder located on a second side of the memory array" recited in claim 55.

Therefore, Tanoi does not teach all of the elements recited or incorporated into the claims. Consequently, Applicant respectfully requests withdrawal of the rejection and allowance of claims 55-57.

<sup>&</sup>lt;sup>4</sup> Tanoi, col. 4 lines 36-38 and col. 4 line 66 through col. 5 line 4.

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## **CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. Box 2938
Minneapolis, MN 55402
(612) 349-9587

Date 116+06

Timothy B. Clise Reg. No. 40,957

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this \_\_\_\_\_\_\_ day of October, 2008.

Name

Signature